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Sequence Listing could not be accepted.

If you need help call the Patent Electronic Business Center at (866) 217-9197 (toll free).

Reviewer: Keisha Douglas

Timestamp: [year=2008; month=4; day=24; hr=17; min=54; sec=23; ms=85; ]

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\*\*\*\*\*

Reviewer Comments:

<210> 34

<211> 7

<212> PRT

<213> TNF-alpha light chain

<400> 34

Asp Ile Gln Met Thr Gln Ser

1 5

<210> 35

<211> 8

<212> PRT

<213> TNF-alpha heavy chain

<400> 35

Glu Val Gln Leu Glu Val Asp Ser

1 5

<210> 36

<211> 12

<212> PRT

<213> N-terminal sequence of recombinant TNF-alpha

<400> 36

Asp Glu Ile Val Gln Met Leu Thr Val Gln Asp Ser

1 5 10

The above <213> responses for sequence id#'s 34-36, are invalid.

Please refer to sequence rules formatting for valid <213> responses.  
FYI, the above responses can be inserted into section <220> - <223>.  
Please make certain to correct any other sequences with similar errors.  
\*\*\*\*\*

Application No: 10576068

Version No: 1.0

Input Set:

Output Set:

Started: 2008-04-11 10:28:48.831

Finished: 2008-04-11 10:28:50.410

Elapsed: 0 hr(s) 0 min(s) 1 sec(s) 579 ms

Total Warnings: 36

Total Errors: 0

No. of SeqIDs Defined: 36

Actual SeqID Count: 36

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)
W 213	Artificial or Unknown found in <213> in SEQ ID (10)
W 213	Artificial or Unknown found in <213> in SEQ ID (11)
W 213	Artificial or Unknown found in <213> in SEQ ID (12)
W 213	Artificial or Unknown found in <213> in SEQ ID (13)
W 213	Artificial or Unknown found in <213> in SEQ ID (14)
W 213	Artificial or Unknown found in <213> in SEQ ID (15)
W 213	Artificial or Unknown found in <213> in SEQ ID (16)
W 402	Undefined organism found in <213> in SEQ ID (17)
W 213	Artificial or Unknown found in <213> in SEQ ID (18)
W 213	Artificial or Unknown found in <213> in SEQ ID (19)
W 213	Artificial or Unknown found in <213> in SEQ ID (20)

**Input Set:**

**Output Set:**

**Started:** 2008-04-11 10:28:48.831  
**Finished:** 2008-04-11 10:28:50.410  
**Elapsed:** 0 hr(s) 0 min(s) 1 sec(s) 579 ms  
**Total Warnings:** 36  
**Total Errors:** 0  
**No. of SeqIDs Defined:** 36  
**Actual SeqID Count:** 36

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (21) This error has occurred more than 20 times, will not be displayed
W 402	Undefined organism found in <213> in SEQ ID (24)
W 402	Undefined organism found in <213> in SEQ ID (34)
W 402	Undefined organism found in <213> in SEQ ID (35)
W 402	Undefined organism found in <213> in SEQ ID (36)

# SEQUENCE LISTINGS

<110> Hanmi Pharm. Co., Ltd.

<120> EXPRESSION VECTOR FOR SECRETING ANTIBODY FRAGMENT USING E. COLI SIGNAL  
SEQUENCE AND METHOD FOR MASS-PRODUCING ANTIBODY FRAGMENT

<130> Q94300

<140> 10576068

<141> 2008-04-11

<150> KR1020030072216

<151> 2003-10-16

<150> PCT/KR04/02625

<151> 2004-10-14

<160> 36

<170> KopatentIn 1.71

<210> 1

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of light chain variable region

<400> 1

gggaagcttc gatcgacat ccagatgacc cagtctccat cctccctgtc tgcattctgta 60

ggggacagag tcacc 75

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<211> 80

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<213> Artificial Sequence

<220>

<223> gene fragment of light chain variable region

<400> 2

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ggtgactctg tcccctacag 80

<210> 3

<211> 80

<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of light chain variable region

<400> 3

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tgcaatcagg ggtcccatct 80

<210> 4

<211> 80

<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of light chain variable region

<400> 4

aggctgtagg ctgctgatgg tgagagtga atctgtccca gatccactgc cactgaaccg 60

agatgggacc cctgattgca 80

<210> 5

<211> 80

<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of light chain variable region

<400> 5

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caccgtatac ttttggccag 80

<210> 6

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of light chain variable region

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<210> 7

<211> 75

<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of heavy chain variable region

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aggtccctga gactc 75

<210> 8

<211> 79

<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of heavy chain variable region

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gagtctcagg gacctgccg 79

<210> 9

<211> 80

<212> DNA

<213> Artificial Sequence

<220>

<223> gene fragment of heavy chain variable region

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atagtgtca catagactat 80

<210> 10

<211> 80

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atagtctatg tgaccactat 80

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 <223> gene fragment of heavy chain variable region  
  
  
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 <212> DNA  
 <213> Artificial Sequence  
  
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 <223> RT-PCR forward primer specific for heavy chain  
  
  
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 <210> 14  
 <211> 48  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> RT-PCR reverse primer specific for heavy chain  
  
  
 <400> 14  
 gggggatcct tatgggcacg gtgggcatgt gtgagttttg tcacaaga 48  
  
  
 <210> 15



<211> 42  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> RT-PCR forward primer specific for light chain  
  
  
 <400> 15  
 cccaagcttt cggaactgt ggctgcacca tctgtcttca tc 42  
  
  
 <210> 16  
 <211> 42  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> RT-PCR reverse primer specific for light chain  
  
  
 <400> 16  
 cccgatccc taacactctc cctgttgaa gctctttgtg ac 42  
  
  
 <210> 17  
 <211> 69  
 <212> DNA  
 <213> modified E. coli thermostable enterotoxin II signal sequence  
  
 <400> 17  
 atgaaaaaga caatgcatt tcttcttgca tctatgttcg tttttctat tgctacaaat 60  
 gccagggcg 69  
  
  
 <210> 18  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> forward primer containing StuI restriction enzyme site  
  
  
 <400> 18  
 tctattgcta caaatgccca ggcttccca accattccct tatcc 45  
  
  
 <210> 19  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> reverse primer containing StuI restriction enzyme site

<400> 19  
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<210> 20  
 <211> 51  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> reverse primer specific for light chain

<400> 20  
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<210> 21  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> forward primer containing SD sequence and BamHI restriction enzyme site

<400> 21  
 gggggatcca ggaggtgatt tatgaaaaa acaatcgcat ttc 43

<210> 22  
 <211> 44  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> forward primer containing BpuI restriction enzyme site

<400> 22  
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<210> 23  
 <211> 52  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> reverse primer containing BpuI restriction enzyme site

<400> 23  
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<210> 24  
 <211> 63  
 <212> DNA  
 <213> E. coli OmpA signal sequence

<400> 24  
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 gct 63

<210> 25  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> forward primer specific for heavy chain

<400> 25  
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<210> 26  
 <211> 51  
 <212> DNA  
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<220>  
 <223> forward primer containing HindIII and StuI restriction enzyme sites

<400> 26  
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<210> 27  
 <211> 30  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> reverse primer containing stop codon and BamHI restriction enzyme site

<400> 27  
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<210> 28  
 <211> 42  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> forward primer containing HindIII and NruI restriction enzyme sites

<400> 28  
 cccagatctc taacactctc cctgttgaa gctctttgtg ac 42

<210> 29  
 <211> 41  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> reverse primer containing stop codon and BamHI restriction enzyme site

<400> 29  
 ggggtcgaca ggaggtgatt tatgaaaaag acagctatcg c 41

<210> 30  
 <211> 51  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> reverse primer containing SalI restriction enzyme site

<400> 30  
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<210> 31  
 <211> 42  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> forward primer specific for modified E. coli enterotoxin II signal peptide and containing NdeI restriction enzyme site

<400> 31  
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<210> 32  
 <211> 705  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> TNF-alpha heavy chain

<400> 32  
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ccaggaag gcttgaatg ggtctcagct atcacttggg atagtgggt catagactat	180
gctgactctg tggagggccg attcaccatc tccagagaca acgccaagaa ctccctgtat	240
ctgcaaatga acagtctgag agctgaggat acggccgtat attactgtgc gaaagtctcg	300
taccttagca ccgcgtctc ccttgactat tggggccaag gtaccctggg caccgtctcg	360
agtgcctcca ccaagggccc atcggtcttc ccctggcac cctcctcaa gagcacctct	420
gggggcacag cggccctggg ctgcctgggc aaggactact tccccgaacc ggtgacggtg	480
tctgtggaact caggcgccct gaccagcggc gtgcacacct tcccggctgt cctacagtcc	540
tcaggactct actccctcag cagcgtgggt accgtgccct ccagcagctt gggcaccag	600
acctacatct gcaacgtgaa tcacaagccc agcaacacca aggtggacaa gaaagttgag	660
cccaaatctt gtgacaaaac tcacacatgc ccaccgtgcc catag	705

<210> 33  
 <211> 645  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> TNF-alpha light chain

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gggaaagccc ctaagctcct gatctatgct gcatccactt tgcaatcagg ggtcccatct	180
cggttcagtg gcagtggatc tgggacagat ttactctca ccatcagcag cctacagcct	240
gaagatgttg caacttatta ctgtcaaagg tataaccgtg caccgtatac ttttggccag	300
gggaccaag tggaaatcaa acgaactgtg gctgcaccat ctgtcttcat ctccccgcca	360
tctgatgagc agttgaaatc tggaaactgcc tctgttgtgt gcctgctgaa taacttctat	420
cccagagagg ccaaagtaca gtggaagggt gataacgccc tccaatcggg taactcccag	480
gagagtgtca cagagcagga cagcaaggac agcacctaca gcctcagcag caccctgacg	540
ctgagcaaaag cagactacga gaaacacaaa gtctacgcct gcgaagtcac ccatcagggc	600
ctgagctcgc ccgtcacaaa gagcttcaac aggggagagt gttag	645

<210> 34  
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<212> PRT  
<213> TNF-alpha light chain

<400> 34  
Asp Ile Gln Met Thr Gln Ser  
1 5

<210> 35  
<211> 8  
<212> PRT  
<213> TNF-alpha heavy chain

<400> 35  
Glu Val Gln Leu Glu Val Asp Ser  
1 5

<210> 36  
<211> 12  
<212> PRT  
<213> N-terminal sequence of recombinant TNF-alpha

<400> 36  
Asp Glu Ile Val Gln Met Leu Thr Val Gln Asp Ser  
1 5 10